Artificial Intelligence and Entrepreneurial Burnout: The Case of Tunisian Startups

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Abstract—**Despite all the advantages offered by the use of artificial intelligence, the drawbacks must be taken into account. Referring to the conservation of resources theory and the job requirements and resources model, this study aims to examine the impact of AI on entrepreneur burnout. Entrepreneurs undertake several tasks simultaneously without being able to complete them due to emergencies and unforeseen events. They feel tense and strained because of the relatively waning conditions of their work. They are subjected to stressful circumstances. Faced with the rise in stress among entrepreneurs, the issue of entrepreneurial burnout arises. This phenomenon depletes their resources on the one hand and disrupts, threatens, and impairs their psychological and mental well-being on the other. Burnout can also affect their work commitment. In most cases, it is felt when the entrepreneur does not feel professionally fulfilled. Based on 11 interviews with innovative novice entrepreneurs in Tunisia, empirical results show that AI does not have a positive impact on burnout. On the contrary, according to the interviewees, AI helps reduce burnout among entrepreneurs by addressing three key components: emotional exhaustion, depersonalization, and reduced personal accomplishment. They believe that, through creative solutions, artificial intelligence offers tremendous potential for mitigating the managerial and cognitive pressures that lead to burnout.**

Keywords—**Artificial Intelligence – Stress-Entrepreneurial Burnout -Startups - Qualitative Research**

I. INTRODUCTION

The advent of artificial intelligence (AI) has transformed the operation, competitiveness, and value creation of modern businesses [1]. Rapid advances in AI have enabled businesses to streamline complex processes, automate manual tasks, make better decisions, and optimize resource utilization [2]. However, the introduction of AI can intensify burnout by imposing new job demands, altering job characteristics, and disrupting established work routines [3].

In the current social context, burnout represents one of the most significant psychological and social risks, generating considerable costs for individuals and organizations and affecting not only one professional branch, but all professional categories and all sectors of activity [4]. Entrepreneurs are not immune to this psychosocial risk. They are, in fact, subjected to stressful circumstances due to intense professional demands, such as a high workload, role ambiguity, role conflict, emotional strain, time pressure, tension between professional and personal responsibilities, interpersonal interactions, information technologies, and increased demands imposed by oneself and the organization. These factors are considered sources of burnout [5]. Moreover, when professional demands exceed available resources, fatigue sets in and, ultimately, this imbalance leads to burnout [6]. A lack of professional resources, whether physical, psychological, social, or organizational, can also contribute to burnout, particularly when individuals feel exhausted or unable to recharge [7].

This study aims to answer the following research question: How does the adoption of AI in startups influence the burnout of entrepreneurs? Within this framework, this research aims to explore the impact of artificial intelligence on burnout among entrepreneurs, through a dual approach: theoretical and empirical.

II. LITERATURE REVIEW

A. Definition of Burnout

Burnout refers to a syndrome related to professional wear and tear, characterized by emotional exhaustion, feelings of depersonalization, and a diminished sense of personal accomplishment [8]. Emotional exhaustion is characterized by a lack of energy and a complete depletion of emotional resources caused by work. It arises

in the face of demanding and overloaded work and ultimately leads to a loss of motivation, irritability, and the depletion of the worker's physical and emotional resources [8]. Depersonalization consists of establishing a distance through a cynical posture. Reduced personal accomplishment is a reaction to feelings of incompetence, accumulated fatigue and devaluation.

B. Artificial intelligence: an accelerating factor in burnout

AI refers to systems or machines capable of performing tasks that generally require human intelligence. These tasks include problem-solving, learning, pattern recognition, and decision-making. Numerous studies have indicated that AI can have significant consequences for employee health and contribute to burnout. One of the main concerns related to AI in the workplace is the loss of autonomy felt by workers. This autonomy is threatened by increasing automated control, which is becoming insidious and exacerbating psychosocial risks. This trend is corroborated by a study by [9], which suggests that the increased integration of AI can contribute to burnout. Uncertainty about the professional future plays a significant role in this feeling of exhaustion. Many employees, despite being well aware of the possibilities offered by AI, feel insecure about the long-term viability of their jobs, fearing that machines could replace them. This insecurity, coupled with job insecurity, generates stress and emotional fatigue [10].

AI adoption can be considered a job requirement, as it generates new problems and complexities that require employees to acquire new skills, adapt to new work processes, and collaborate with AI systems [11]. Employees may also experience additional psychological costs related to job demands, such as the need to constantly learn and improve their skills to remain relevant in their profession [3]. Technological overload, technological invasion, technological complexity, technological insecurity, and technological uncertainty are all factors that can manifest during the adoption of AI, leading to increased stress and burnout among employees. Specifically, technological overload occurs when AI technologies increase workload and accelerate the pace, forcing employees to work more intensely [13].

III. METHODOLOGY

To support the ideas arising from the literature review and to explore the impact of AI on the risk of burnout among Tunisian entrepreneurs, we conducted a qualitative study with entrepreneurs from Tunisian technology startups. To our knowledge, the ICT sector in Tunisia is characterized by intense competition. Our primary data collection tool was semi-structured interviews. These allowed us to fully exploit the potential for knowledge generation by offering interviewees greater freedom to express themselves on topics they considered important [14]. The sample for this study consisted of 11 entrepreneurs operating in the technology solutions development sector. It should be noted that the number of entrepreneurs was not predetermined. This was a data collection process that reached saturation. We therefore adhered to the principle of saturation cited by [15], according to which saturation is reached when the last interview adds no new information compared to the previous interviews.

The qualitative information obtained through direct interviews underwent thematic content analysis. This analysis aims to categorize the text into several themes and sub-themes, enabling a more in-depth understanding.

VI.   RESULTS

Analyzing the content of all the interviews we conducted allowed us to explore the four main themes we had previously established. Based on these themes, we will then present the main conclusions drawn from our analysis.

A. Attitude of digital entrepreneurs towards the entrepreneurial process and its development

Regarding the attitude of digital entrepreneurs towards the entrepreneurial process, three key findings emerge from this analysis: First, Tunisian businesses typically follow a complex, burnout-prone, three-stage process: project planning, business launch, and company growth. Second, this process requires a range of resources and skills for its development. Third, a lack of financial resources, a shortage of digital skills, resistance to change, the complexity of the process, the legal framework, and data cybersecurity all hinder its development. "It's a complex system because I've encountered difficulties with product distribution,

especially since I have innovative ideas. It's not easy to convince customers to buy innovative products. To ensure the quality of the finished product, you have to conduct several trials." (Entrepreneur's statement). "The process is a source of burnout because there aren't many organizations that support business creation. Furthermore, the human-computer interaction leads to burnout. (Entrepreneur's statement 2)". "The process is complex because it requires the daily execution of several complex tasks, such as human resource management… The unavailability of financial and informational resources and the lack of organization are a real problem for me." (Entrepreneur's statement 9). "Several types of management, namely sales management, personnel management, and financial management, tend to further complicate the entrepreneurial process." (Entrepreneur's statement 5).

B. Digital entrepreneurs' perceptions of the impact of AI on their risk of burnout

The majority of respondents acknowledged that by automating repetitive tasks, fostering creativity and innovation, reducing workload, making decision-making more efficient, streamlining communication, and optimizing time management, AI helps create a more fulfilling work environment, which, in turn, reduces their level of burnout. "When I spend less time on repetitive tasks, I have more opportunities to contribute strategically and creatively, which improves my job satisfaction and reduces my burnout." "By freeing up time and reducing the mental load associated with monotonous tasks, AI allows me to focus on higher-value and more meaningful missions, cultivate a sense of accomplishment, boost my motivation, and improve my job satisfaction." (Entrepreneur's Testimonial 1). "Intelligent virtual assistants and chatbots like ChatGPT are available 24/7, contributing to immediate accessibility and responsiveness that allows for the rapid handling of customer requests and issues. This time saving and continuous availability for customers promotes customer satisfaction, which in turn increases my job satisfaction and reduces burnout." (Entrepreneur's Testimonial 5).

The majority of respondents agree on the importance of finding a balance between work and personal life to maintain their motivation and reduce burnout. "By eliminating time-consuming tasks, I can better manage my time, which improves my work-life balance and, consequently, reduces my burnout." (Entrepreneur 5). "Automation tools allow me to manage tasks outside of working hours in my office, improving my work-life balance, offering more flexibility, and reducing stress and burnout." (Entrepreneur 9). "Thanks to AI tools, I can better plan my days, ensuring that essential tasks are completed on time and quickly identifying priorities. This organization and clarity help reduce the stress associated with poor time management, thus maintaining a work-life balance and reducing burnout." (Entrepreneur 8). "By using AI-powered scheduling assistants, I can optimize calendars to avoid overload and ensure a work-life balance, thus reducing burnout." (Entrepreneur's statement, 12).

The thematic content analysis reveals that, according to the majority of respondents, artificial intelligence offers valuable opportunities to reduce administrative and cognitive workloads, thereby helping to reduce burnout. "AI reduces the administrative workload by automating tasks such as file management and appointment scheduling." (Entrepreneur 9). "AI helps reduce the workload related to organizational tasks, human resources management, and follow-up calls." (Entrepreneur 2).

The majority of respondents suggest that AI, thanks to its advanced analytical capabilities and dynamic adaptation, makes it possible to analyze individual skills gaps, identify learning patterns and personalize content, which promotes the development of their skills and reduces their level of burnout. "By analyzing my data, AI tools can identify skills gaps and suggest tailored training that helps me adapt to technological changes." Furthermore, it allows me to benefit from a training path tailored to specific needs." (Entrepreneur testimonial 4). "AI offers innovative assessment tools and facilitates the development of my skills, reducing anxiety related to job insecurity and strengthening confidence and long-term career progression." (Entrepreneur testimonial 7). "If I haven't yet mastered a particular essential task, AI flags it and recommends targeted training. This responsiveness allows me to improve my productivity, make fewer operational errors, and better prepare for unforeseen events. As a result, I feel supported in my professional development, which reduces my level of stress and burnout." These results support the idea of [17] that automation and AI systems can potentially give more meaning to the work of some employees, for example, by strengthening human learning, skills, and development, and by giving employees more control and power through expanded access

to information.

V. CONCLUSION

Artificial intelligence is a powerful tool for reducing burnout among digital entrepreneurs by promoting engagement and job satisfaction, reducing administrative burdens, fostering skills development, and improving work-life balance. Through responsible use of AI, including selecting the right tools and providing ongoing training, digital businesses can maximize the benefits of automation without compromising employee well-being. Overall, this article demonstrates the importance of modern technologies, particularly AI, in changing how we work, thereby reducing burnout and workplace stress. However, our research has some limitations. First, it is based on a small sample of digital companies. Second, while the qualitative approach allowed us to capture the richness of managerial perspectives, it does not establish robust causal relationships between AI use and burnout. Several research avenues warrant further exploration, including: empirical evaluation, within the framework of a quantitative study, of the correlations between AI and burnout; sectoral differences (healthcare, education, public service); and the development of operational ethical frameworks for intelligent systems in the workplace.

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